

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/011699

International filing date (day/month/year)
16.10.2004

Priority date (day/month/year)
21.10.2003

International Patent Classification (IPC) or both national classification and IPC
F27D3/18

Applicant
OUTOKUMPU OYJ

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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10/576407

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

IP20 Rec'd 17 APR 2006

APR 2006
International application No.
PCT/EP2004/011699

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/011699

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-29
	No: Claims	
Inventive step (IS)	Yes: Claims	1-29
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-29
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2004/011699

1AP20 REG'D PCT/PTO 19 APR 2006

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document:

D1: US-A-3 371 186

The document D1 discloses (Fig. 5 and col. 6, line 4 to col. 7, line 4) a pipe segment for transporting molten metal in a transfer line (suitable for transporting hot particulate material using a carrier fluid), which pipe segment includes:

- (a) an outer pipe section (132);
- (b) a metallic (hence having a given abrasion resistance) inner pipe section (26) defining a passageway for the material to be transported, the inner pipe section being positioned within the outer pipe section, and
- © a support means (134) supporting the inner pipe section in relation to the outer pipe section,

wherein elements (a), (b) and © are built in such a way that the inner pipe section can expand axially relative to the outer pipe section in response to temperature changes.

D1 deals with the problem of the differential axial expansion of the inner and outer pipes, but it does not disclose any features of the pipe system for allowing the connection of several individual pipe segments with one another while overcoming the problems of the thermal expansion of the ensemble in the axial direction.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as how to build pipe segments that can be connected together into a transfer line that can work satisfactorily under the thermal conditions resulting from the intermittent transport through it of hot particulate material.

The solution to this problem proposed in claim 1 of the present application (the features of the "first support means") is considered as involving an inventive step (Article 33(3)

PCT) because the available prior art provides no hint to a support means comprising the claimed features.

The pipe segments being novel and inventive, both a transfer line comprising such segments (claim 23), and a process involving their use (claim 25) are also novel and inventive.

The rest of the claims are dependent on one of claims 1, 23 or 23 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

The drawings do not comply with the requirements of Rule 11.11(a), 11.13(e),(f) PCT.